

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A brake device ~~which is adapted for a motor vehicle and has a braking means that applies brake force according to brake fluid pressure to a rotator fixed to a wheel, the brake device is wherein the brake device has a pressure-reducing means for applying reaction force inputted from the rotator to the braking means in a brake operation in a reducing direction of the brake fluid pressure~~ comprising:

a fluid pressure brake that applies fluid pressure brake torque to a wheel;

a wheel-cylinder pressure passage that is fluidically connected with the fluid pressure brake to provide the fluid pressure brake with wheel-cylinder pressure to generate the fluid pressure brake torque;

an on-demand brake pressure passage that is fluidically connectable with the wheel-cylinder pressure passage to determine on-demand brake torque;

a brake reaction torque detector configured to detect a brake reaction torque inputted to the fluid pressure brake; and

a wheel-cylinder pressure modulator valve that is fluidically connected with the wheel-cylinder pressure passage and the on-demand brake pressure passage, the wheel-cylinder pressure modulator valve being capable of modulating the wheel-cylinder pressure so that the fluid pressure brake torque can be decreased based on the brake reaction torque and the on-demand brake torque.

2. (Currently Amended) The brake device according to claim 1, ~~wherein the pressure-reducing means is provided with a valve means capable of shifting maintenance and reduction of the brake fluid pressure, and applies the reaction force inputted to the braking means in the reducing direction of the brake fluid pressure in the valve means~~ further comprising an electric motor that is capable of applying regenerative brake torque to the wheel,

wherein the brake reaction torque detected by the brake reaction torque detector is generated due to the regenerative brake torque.

3. (Currently Amended) The brake device according to claim ~~[[1]]~~ 2, wherein ~~a brake reaction force detecting mechanism is provided for detecting the reaction force inputted to the braking means, so that the detected reaction force is applied to the valve means in the reducing direction of the brake fluid pressure~~ the wheel-cylinder pressure modulator valve decreases the wheel-cylinder pressure so that a sum torque of the regenerative brake torque and the fluid pressure brake torque can be balanced with the on-demand brake torque.

4. (Currently Amended) The brake device according to claim 1, wherein the brake reaction torque detector ~~force detecting means~~ is provided swingably relative to a vehicle body side, ~~[[and]]~~ being integrated with the braking means fluid pressure brake so that the amount of the reaction torque ~~[[force]]~~ inputted to the ~~braking means fluid pressure brake~~ can be ~~transformed~~ changed into a displacement in a swing movement of the brake reaction torque detector.

5. (Currently Amended) The brake device according to claim 4, ~~wherein~~ further comprising a drive device that is provided contained in a machine-side cylindrical case to apply driving force to the wheel, ~~[[and]]~~

wherein the brake reaction torque detector ~~force detecting means~~ includes ~~[[a]]~~ the machine-side cylindrical case ~~containing the drive device.~~

6. (Currently Amended) The brake device according to claim ~~[[4]]~~ 5, wherein the drive device is a rotating an electric motor ~~is provided for applying regenerative brake force to the wheel, and the brake reaction force detecting means includes a machine-side cylindrical case containing the rotating electric motor.~~

7. (Currently Amended) The brake device according to claim ~~[[4]]~~ 6, wherein the machine-side cylindrical case is provided with a working arm, wherein a ~~[[the]]~~ machine-side of the ~~rotating electric machine motor~~ is rotatably supported ~~[[by]]~~ relative to a vehicle body side member,

wherein the vehicle body side member is formed with an on-demand brake fluid pressure chamber fluidically connected with the on-demand brake pressure passage, a wheel-cylinder fluid pressure chamber fluidically connected with the wheel-cylinder pressure passage and a return fluid pressure chamber fluidically connected with a return passage,

wherein an orifice is provided in a first communicating fluid pressure passage between the on-demand brake fluid pressure chamber and the wheel-cylinder fluid pressure chamber,

wherein the [[a]] wheel-cylinder [[fluid]] pressure modulator valve is provided in a second communicating fluid pressure passage between the wheel-cylinder fluid pressure chamber and the return fluid pressure chamber, and

wherein the wheel-cylinder pressure modulator valve has the pressure-reducing means is a mechanical feedback mechanism for modulating the wheel cylinder fluid pressure so that a [[the]] sum torque of [[the]] regenerative brake torque that is applied through [[a]] the working arm ~~provided on the machine-side cylindrical case~~ in the opening direction and the fluid pressure brake torque due to the wheel cylinder fluid pressure in the opening direction can be balanced with the on-demand brake torque due to an [[the]] on-demand brake fluid pressure generated in the on-demand brake pressure passage.

8. (Currently Amended) The brake device according to claim 7, wherein the ~~rotating electric machine~~ motor is an in-wheel electric motor with reduction gears, ~~in which~~

wherein the ~~in-wheel~~ electric motor and the reduction gears are arranged in the machine-side cylindrical case fixed to an integral brake caliper in a driving wheel,

wherein the wheel-cylinder [[fluid]] pressure modulator valve has a piston and a valve member connected with the piston, [[where]] one end portion of the piston [[is]] being arranged in the on-demand brake fluid pressure chamber to receive the on-demand brake torque in a closing direction of the wheel-cylinder [[fluid]] pressure modulator valve when the on-demand brake fluid pressure is generated and the valve member ~~opens and closes~~ opening and closing a valve hole formed in a partition wall between the wheel-cylinder fluid pressure chamber and the return fluid pressure chamber, and

wherein the mechanical feedback mechanism is a first feedback mechanism for modulating the wheel cylinder [[fluid]] pressure so that a sum torque of the wheel-cylinder

brake torque and the regenerative brake torque applied to the piston through the working arm ~~provided on the machine-side cylindrical case~~ in the opening direction can be balanced with the on-demand brake torque acting in the closing direction and determined by a ~~the~~ product of ~~an~~ ~~the~~ on-demand fluid pressure and an effective pressure receiving area of the piston.

9. (Withdrawn – Currently Amended) The brake device according to claim 7, wherein the working arm includes a first working arm and a second working arm that is apart from the first working arm,

wherein the rotating electric machine motor is an on-vehicle electric motor with reduction gears, ~~in which~~ the electric motor and the reduction gears~~[[are]]~~ being arranged in the machine-side cylindrical case which is separated from a brake caliper in a driving wheel,

wherein the wheel-cylinder [[fluid]] pressure modulator valve has a first piston and a valve member connected with the first piston, ~~where~~ one end portion of the piston ~~[[is]]~~ being arranged in the on-demand brake fluid pressure chamber to receive ~~torque~~ the on-demand brake pressure in a closing direction of the wheel-cylinder ~~[[fluid]]~~ pressure modulator valve when the on-demand brake fluid pressure is generated, and the valve member ~~opens and closes~~ opening and closing a valve hole formed in a partition wall between ~~[[the]]~~ a first wheel-cylinder fluid pressure chamber and the return fluid pressure chamber,

wherein the vehicle body side member is formed with a second wheel-cylinder fluid pressure chamber that is apart from the wheel-cylinder pressure modulator valve and provided with a second piston ~~at a position distanced from the wheel-cylinder fluid pressure modulator valve,~~

wherein the machine-side cylindrical case ~~is provided with a~~ second working arm receiving receives the regenerative brake torque from a piston rod of the second piston in the opening direction when the wheel-cylinder ~~wheel-cylinder fluid~~ pressure is generated, and

wherein the mechanical feedback mechanism is a second feedback mechanism for modulating the wheel-cylinder ~~wheel-cylinder fluid~~ pressure so that sum torque of the wheel-cylinder brake torque and the regenerative brake torque applied to the first piston through the first working arm ~~provided on the machine-side cylindrical case~~ in the opening direction can be balanced with the on-demand brake torque acting in the closing direction and determined

by the product of the on-demand brake fluid pressure and an effective pressure receiving area of the first piston.

10. (Withdrawn – Currently Amended) The brake device according to claim [[9]] 7, wherein the ~~rotating electric machine~~ motor is an on-vehicle electric motor with reduction gears, ~~in which~~ the electric motor and the reduction gears ~~[[are]]~~ being arranged in the machine-side cylindrical case which is separated from a brake caliper in a driving wheel,

wherein the wheel-cylinder ~~[[fluid]]~~ pressure modulator valve has a first piston, a second piston and a valve member connected with the first piston and the second piston, ~~where~~ one end portion of the first piston ~~[[is]]~~ being arranged in the on-demand brake fluid pressure chamber to receive ~~torque~~ the on-demand fluid pressure in a ~~[[the]]~~ closing direction when the on-demand brake fluid pressure is generated, one end portion of the second piston ~~[[is]]~~ being arranged in the wheel-cylinder fluid pressure chamber to receive ~~torque~~ the wheel-cylinder fluid pressure in the opening direction when the wheel-cylinder fluid pressure is generated, and the valve member ~~opens and closes~~ opening and closing a valve hole formed in a partition wall between the wheel-cylinder fluid pressure chamber and the return fluid pressure chamber, and

wherein the mechanical feedback mechanism is a third feedback mechanism for modulating the wheel-cylinder ~~wheel-cylinder~~ fluid pressure so that the sum torque of the regenerative brake torque applied to the first piston through a ~~[[the]]~~ first working arm ~~provided on the machine-side cylindrical case~~ in the opening direction and the fluid pressure brake torque due to the wheel-cylinder fluid pressure ~~acting~~ in the opening direction and determined by the product of the wheel-cylinder fluid ~~wheel-cylinder~~ pressure and an effective pressure receiving area of the second piston can be balanced with the on-demand brake torque acting in the closing direction and determined by the product of the on-demand brake fluid pressure and an effective pressure receiving area of the first piston.

11. (Currently Amended) The brake device according to claim [[7]] 1, wherein the on-demand brake fluid pressure ~~chamber~~ passage is a master-cylinder fluid pressure ~~chamber~~ passage conducting master cylinder fluid pressure generated by a master cylinder according to a brake operation of a brake operating means pedal.



12. (Withdrawn – Currently Amended) The brake device according to claim ~~[[7]]~~ 1, wherein the on-demand brake pressure ~~[[fluid]]~~ pressure chamber passage is an ABS brake fluid pressure chamber passage conducting ABS brake fluid pressure from an Antilock Brake System provided at a downstream side of a master cylinder.

13. (Withdrawn – Currently Amended) The brake device according to claim 12, ~~wherein~~ further comprising a brake controller configured to stop ~~control means is provided for~~ stopping regenerative brake obtained ~~by the rotating~~ an electric machine motor in an Antilock Braking system operation.

14. (Withdrawn – Currently Amended) The brake device according to claim 1, wherein the brake reaction force torque detector ~~detecting means~~ is a torque sensor that electrically detects reaction force of a ~~[[the]]~~ fluid reaction force inputted to a brake caliper, and

wherein the wheel-cylinder pressure modulator valve is a pressure-reducing solenoid valve controlled by the pressure-reducing means ~~is an electric feedback circuit that controls so~~ that the pressure-reducing solenoid valve for decreasing decreases an the brake on-demand ~~fluid pressure according to~~ based on a torque value detected by the torque sensor.

15. (Withdrawn – Currently Amended) The brake device according to claim 14, further comprising an ~~wherein the rotating~~ electric motor, wherein the electric motor machine is an in-wheel electric motor with reduction gears, ~~in which~~ the electric motor and the reduction gears ~~[[are]]~~ being arranged in a ~~[[the]]~~ machine-side cylindrical case fixed to an integral brake caliper in a driving wheel, and

wherein the electric feedback circuit includes a pressure-reducing solenoid valve is arranged between ~~[[a]]~~ the wheel-cylinder ~~[[fluid]]~~ pressure passage, which the wheel- cylinder pressure passage conducting ABS brake fluid pressure from an Antilock Brake System provided at a downstream side of a master cylinder to a wheel cylinder, and a return fluid pressure passage being fluidically connected with a fluid pump inlet port side of the Antilock Brake System to control the pressure-reducing solenoid valve ~~according to~~ based on a torque value detected by the torque sensor.

16. (Withdrawn – Currently Amended) The brake device according to claim 14, further comprising an electric motor, wherein the electric motor ~~rotating electric machine~~ is an on-vehicle electric motor with reduction gears, ~~in which~~ the electric motor and the reduction gears ~~[[are]]~~ being arranged in the machine-side cylindrical case which is separated from a brake caliper in a driving wheel, and

wherein the electric feedback circuit includes a the pressure-reducing solenoid valve is arranged between ~~[[a]]~~ the wheel-cylinder ~~[[fluid]]~~ pressure passage and a return fluid pressure passage, the wheel-cylinder pressure passage conducting ABS brake fluid pressure from an Antilock Brake System provided at a downstream side of a master cylinder to a wheel cylinder, and ~~[[a]]~~ the return fluid pressure passage being fluidically connected with a fluid pump inlet port side of the Antilock Brake System to control the pressure-reducing solenoid valve ~~according to~~ based on a torque value detected by the torque sensor.

17. (Withdrawn – Currently Amended) The brake device according to claim 4, wherein ~~only~~ the ~~braking means~~ fluid pressure brake is provided for applying fluid pressure brake force to the wheel, and

wherein the brake reaction torque detector ~~force detecting means~~ is a caliper member integrally formed with a brake caliper of the ~~braking means~~ fluid pressure brake.

18. (New) The brake device according to claim 2, wherein the brake reaction torque detector is provided swingably relative to a vehicle body side, being integrated with the fluid pressure brake so that the amount of the reaction torque inputted to the fluid pressure brake can be changed into a displacement in a swing movement of the brake reaction torque detector.

19. (New) The brake device according to claim 18, further comprising a drive device that is contained in a machine-side cylindrical case to apply driving force to the wheel,

wherein the brake reaction torque detector includes the machine-side cylindrical case.

20. (New) The brake device according to claim 3, wherein the brake reaction torque detector is provided swingably relative to a vehicle body side, being integrated with the fluid pressure

brake so that the amount of the reaction torque inputted to the fluid pressure brake can be changed into a displacement in a swing movement of the brake reaction torque detector.